

[01 - 4112]

IV/IV B.E. DEGREE EXAMINATION.

First Semester

Civil Engineering

Elective II — ELEMENTS OF SOLID WASTE  
MANAGEMENT

(Common for Civil and Civil Environmental  
Engineering)

(Effective from the admitted batch of 2006–2007)

Time : Three hours

Maximum : 70 marks

Question No. 1 is compulsory.

Answer any FOUR questions from the remaining.

All questions carry equal marks.

1. (a) Define solid waste management.
- (b) What is the difference between municipal solid waste and Industrial solid wastes?
- (c) What is meant "3 Rs" in solid waste management?
- (d) State the practical significance of transfer station.
- (e) What do you mean by deep well Injection?

- (f) What is role of microorganisms in composting?
- (g) What is meant by waste handling at the generation point?
2. (a) What are solid wastes? Describe the flow of materials and generation of solid wastes in a technological society?
- (b) Give an account of separation of materials and different processing technologies to be applied to MSW before final disposal.
3. (a) Give the characteristics of a typical solid waste from a town.
- (b) Distinguish between salvaging and segregation.
4. (a) What are the problems due to improper collection and disposal of solid waste in urban areas?
- (b) What is meant by collection of solid waste? Discuss the analysis of collection system for hauled container systems in collection of solid waste.
5. (a) Explain the process and method of composting of municipal solid wastes.
- (b) What are the different problems that arise in land filling and how can they be overcome?

6. (a) Explain the merits and demerits of incineration.
- (b) Draw the typical flow sheet for recovery of resources, conversion of products and energy from solid wastes.
7. (a) Describe the various types of vehicles used for transportation of MSW. Give their advantages and disadvantages.
- (b) What are the significant control parameters in composting? Give their optimum values and methods for controlling the same.
8. Write short notes on :
- (a) Merits and demerits of land farming
- (b) Types of incinerators
- (c) Volume reduction techniques of solid waste.